

Centre Number		
71		

Candidate	Number

General Certificate of Secondary Education 2012

Science: Single Award (Modular)

Staying Alive
Module 1
Foundation Tier
[GSC11]



**MONDAY 12 NOVEMBER 2012, AFTERNOON** 

## TIME

45 minutes.

### **INSTRUCTIONS TO CANDIDATES**

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper. Answer **all seven** questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 45.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only		
Question Number	Marks	
1		
2		
3		
4		
5		
6		
7		

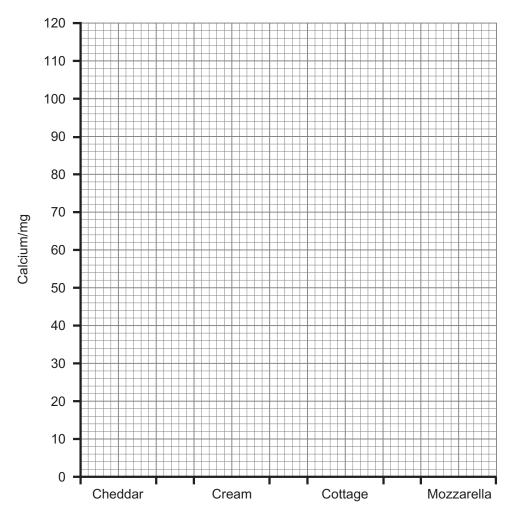
Total	
Marks	



1 (a) The table below shows the iron and calcium content of different types of cheese.

Type of cheese	Iron /mg	Calcium /mg
Cheddar	0.1	100
Cream	1.6	20
Cottage	3.9	70
Mozzarella	2	110

(i) Draw a bar chart showing the **calcium** content of these cheeses on the grid below.



Type of cheese

[2]

**Examiner Only** 

	(ii)	Calculate the difference in <b>calcium</b> content of cream cheese and cottage cheese.	Examiner Only  Marks Remark
		(Show your working out.)	
		mg [2]	
	(iii)	Anaemia is a disease which reduces the number of red blood cells. Which cheese would be best for someone who suffers from anaemia? Give a reason for your choice.	
		Cheese	
		Reason [2]	
b)		art from minerals, such as iron and calcium, name and state the ction of another <b>food type</b> which all cheese contains.	
	Nar	me	
	Fur	nction [2]	

**2 (a)** The statements below show changes that can reduce the risk of having a heart attack.

Examiner Only		
Marks	Remark	

Circle the statements that are lifestyle changes.

#### reduce salt intake

### reduce time spent watching television

#### reduce stress

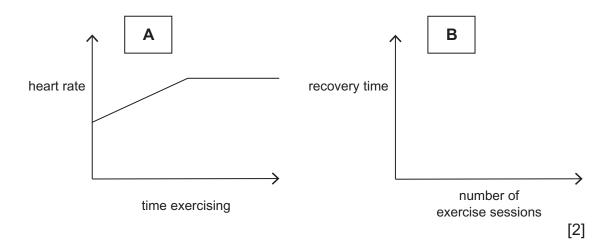
#### reduce cholesterol levels

## stop smoking

### reduce intake of fats

[3]

**(b)** Graph **A** below shows how exercise affects heart rate. Sketch a graph on the axes **B** below to show how the number of exercise sessions affects the **recovery time** of the heart.



(c) Complete the sentence below.

Choose from:

wholewheat : protein : fibre : breakfast

People with constipation are told to increase their intake

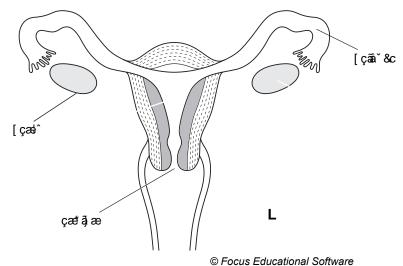
of \_\_\_\_\_ cereals because they contain a lot

of \_\_\_\_\_\_. [2]

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(Questions continue overleaf)

3 (a) The diagram shows the female reproductive system.



**Examiner Only** 

[1]

(ii) The statements below describe what happens to the ovum (egg) from release to implantation but they are in the wrong order.

Draw a line from **X** to the part that receives sperm first.

- A enters the oviduct
- B embeds in uterus
- **C** enters uterus
- **D** released from ovary
- E is fertilised

Using the letters **A**, **B**, **C**, **D** and **E** place the statements in the correct order below.

The first has been done for you.

6

(b)		es can have an operation which cuts parts of their reproductive em thus preventing the release of sperm.		Examine Marks	er Only Remark
	(i)	Name this type of operation.			
		Choose from:			
		contraception : cloning : vasectomy	[1]		
	(ii)	Name the part of the reproductive system that is cut during this operation.			
			[1]		
(c)		e <b>one</b> reason why some people are against the use of traceptives.			
			[1]		

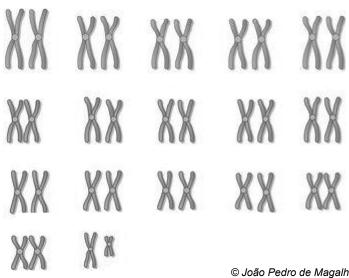
2			
Z. <u> </u>			[2]
hittir	ng him. Complete	all coming towards his face and want the flowchart below at boxes 1, 2 ar onse turns his head away.	
		Football coming towards his face.	
	1.	The sense of	
	2.	sends an impulse to his which	
	3.	sends impulses to the in	
		his neck.	
		George turns his head away.	
			[3]
(c) Com	nplete the followir	ng sentence.	
		system is made up of the	
	the		[2]

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(Questions continue overleaf)

5 (a) The diagram shows all the chromosomes in the nucleus of a cell.

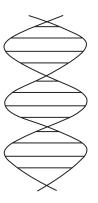
Examiner Only		
Marks Remark		



© João Pedro de Magalhães http://jp.senescence.info/thoughts/karyotype.gif

(i)	How many chromosomes are in this cell?	
		[1]
(ii)	Explain why this cell cannot be:	
	human.	
	a sex cell.	
		[2]

(b)	Chromosomes are made up of a <b>chemical</b> molecule.	The diagram
	shows its double helix shape.	



(i) What is the name of this **chemical**?

\_\_\_\_\_\_[1]

(ii) Give a variation between humans which would be decided by chromosomes.

Choose from:

dyed blonde hair : scar on face : eye colour

\_\_\_\_\_\_[1]

6 Shown below is an advert for a chocolate bar.

Examiner Only					
Marks	Remark				

<Uj Y'U'VUf'cZ W cWWhiVYUf UZhYf'gW cc`'! mi a a m°'



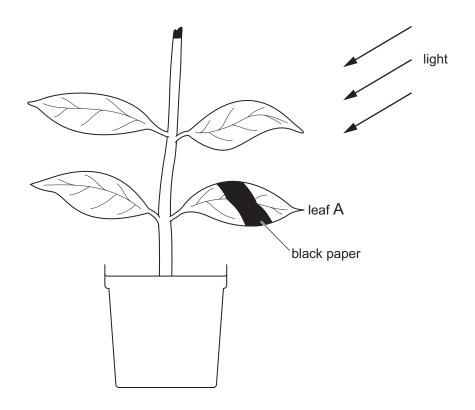
© iStockphoto / Thinkstock

(a)	Suggest what type of person this advert is aimed at.				
(b)	Suggest <b>three</b> reasons why there were many complaints about this advert on health grounds.	[1]			
	1				
	3	[3]			
(c)	Guidelines state that only a small amount of chocolate should be eaten but many people ignore this. Suggest a reason why.				
		[1]			

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7 The plant below can be used to investigate if light is needed for photosynthesis. It is left in light conditions for eight hours.





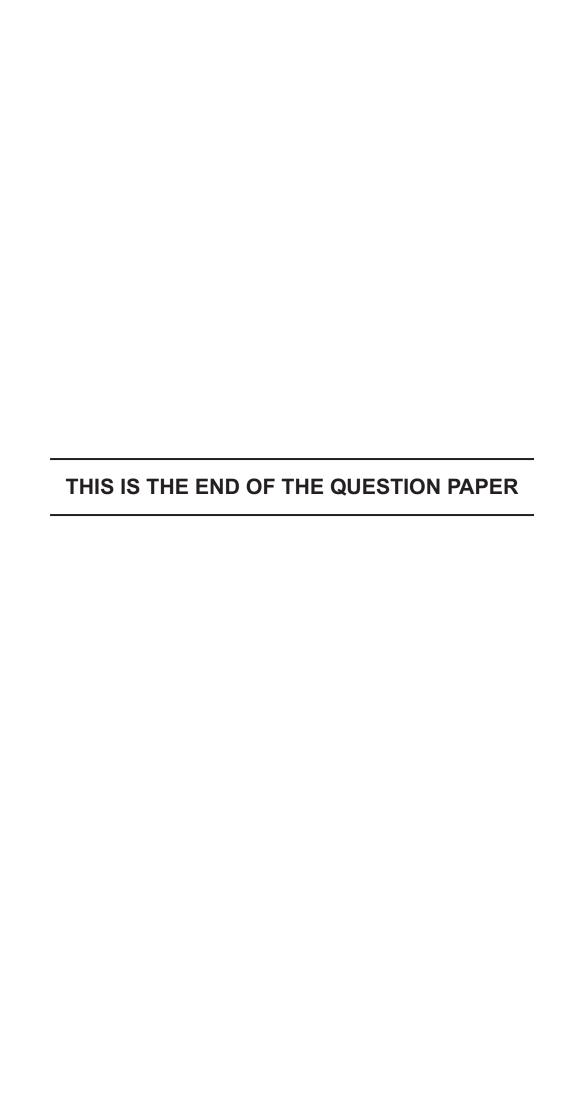
(a)	Leaf A is then tested for starch using lodine. Describe and explain the
	result you would expect for the covered and uncovered parts of the
	leaf.

\_\_\_\_\_\_[3]

**(b)** Describe any **three** steps that have to be done when testing a leaf for starch. Explain the reason for each of these steps.

**(c)** State why photosynthesis is vital for humans.

\_\_\_\_\_\_[1]



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